BioMap and Living Waters

Guiding Land Conservation for Biodiversity in Massachusetts

Core Habitats of Oak Bluffs

This report and associated map provide information about important sites for biodiversity conservation in your area.

This information is intended for conservation planning, and is not intended for use in state regulations.

Produced by:

Natural Heritage & Endangered Species Program
Massachusetts Division of Fisheries and Wildlife
Executive Office of Environmental Affairs
Commonwealth of Massachusetts

Produced in 2004

BioMap and Living Waters:
Guiding Land Conservation for Biodiversity in Massachusetts

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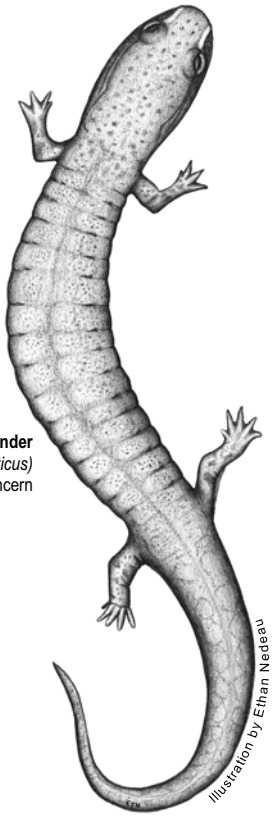
* Depending on the location of Core Habitats, your city or town may not have all of these sections.



Spring Salamander
(Gyrinophilus porphyriticus)
Species of Special Concern

Funding for this project was made available by the Executive Office of Environmental Affairs, contributions to the Natural Heritage & Endangered Species Fund, and through the State Wildlife Grants Program of the US Fish & Wildlife Service.

Natural Heritage & Endangered Species Program

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For more information on rare species and natural communities, please see our fact sheets online at ***www.nhesp.org***

BioMap and Living Waters:
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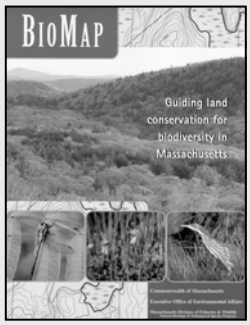
Introduction

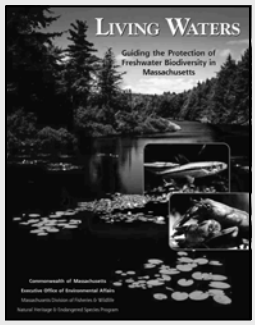
In this report, the Natural Heritage & Endangered Species Program provides you with site-specific biodiversity information for your area. Protecting our biodiversity today will help ensure the full variety of species and natural communities that comprise our native flora and fauna will persist for generatons to come.

The information in this report is the result of two statewide biodiversity conservation planning projects, ***BioMap*** and ***Living Waters***. The goal of the BioMap project, completed in 2001, was to identify and delineate the most important areas for the long-term viability of terrestrial, wetland, and estuarine elements of biodiversity in Massachusetts. The goal of the Living Waters project, completed in 2003, was to identify and delineate the rivers, streams, lakes, and ponds that are important for freshwater biodiversity in the Commonwealth. These two conservation plans are based on documented observations of rare species, natural communities, and exemplary habitats.

What is a Core Habitat?

Both BioMap and Living Waters delineate ***Core Habitats*** that identify the most critical sites for biodiversity conservation across the state. Core Habitats represent habitat for the state's most viable rare plant and animal populations and include exemplary natural communities and aquatic habitats. Core Habitats represent a wide diversity of rare species and natural communities (see Table 1), and these areas are also thought to contain virtually all of the other described species in Massachusetts. Statewide, BioMap Core Habitats encompass 1,380,000 acres of uplands and wetlands, and Living Waters identifies 429 Core Habitats in rivers, streams, lakes, and ponds.





Get your copy of the ***BioMap*** and ***Living Waters*** reports! Contact Natural Heritage at 508-792-7270, Ext. 200 or email natural.heritage@state.ma.us. Posters and detailed technical reports are also available.

Core Habitats and Land Conservation

One of the most effective ways to protect biodiversity for future generations is to protect Core Habitats from adverse human impacts through land conservation. For Living Waters Core Habitats, protection efforts should focus on the ***riparian areas***, the areas of land adjacent to water bodies. A naturally vegetated buffer that extends 330 feet (100 meters) from the water's edge helps to maintain cooler water temperature and to maintain the nutrients, energy, and natural flow of water needed by freshwater species.

In Support of Core Habitats

To further ensure the protection of Core Habitats and Massachusetts' biodiversity in the long-term, the BioMap and Living Waters projects identify two additional areas that help support Core Habitats.

In BioMap, areas shown as ***Supporting Natural Landscape*** provide buffers around the Core Habitats, connectivity between Core Habitats, sufficient space for ecosystems to function, and contiguous undeveloped habitat for common species. Supporting Natural Landscape was

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generated using a Geographic Information Systems (GIS) model, and its exact boundaries are less important than the general areas that it identifies. Supporting Natural Landscape represents potential land protection priorities once Core Habitat protection has been addressed.

In Living Waters, ***Critical Supporting Watersheds*** highlight the immediate portion of the watershed that sustains, or possibly degrades, each freshwater Core Habitat. These areas were also identified using a GIS model. Critical Supporting Watersheds represent developed and undeveloped lands, and can be quite large. Critical Supporting Watersheds can be helpful in land-use planning, and while they are not shown on these maps, they can be viewed in the Living Waters report or downloaded from www.mass.gov/mgis.

Understanding Core Habitat Species, Community, and Habitat Lists

What's in the List?

Included in this report is a list of the species, natural communities, and/or aquatic habitats for each Core Habitat in your city or town. The lists are organized by Core Habitat number.

For the larger Core Habitats that span more than one town, the species and community lists refer to the entire Core Habitat, not just the portion that falls within your city or town. For a list of all the state-listed rare species within your city or town's boundary, whether or not they are in Core Habitat, please see the town rare species lists available at www.nhesp.org.

The list of species and communities within a Core Habitat contains only the species and natural communities that were explicitly included in a given BioMap or Living Waters Core Habitat. Other rare species or examples of other natural communities may fall within the Core Habitat, but for various reasons are not included in the list. For instance, there are a few rare species that are omitted from the list or summary because of their particular sensitivity to the threat of collection. Likewise, the content of many very small Core Habitats are not described in this report or list, often because they contain a single location of a rare plant

Table 1. The number of rare species and types of natural communities explicitly included in the BioMap and Living Waters conservation plans, relative to the total number of native species statewide.

BioMap

	Species and Verified Natural Community Types	
Biodiversity Group	**Included in BioMap**	**Total Statewide**
Vascular Plants	246	1,538
Birds	21	221 breeding species
Reptiles	11	25
Amphibians	6	21
Mammals	4	85
Moths and Butterflies	52	An estimated 2,500 to 3,000
Damselflies and Dragonflies	25	An estimated 165
Beetles	10	An estimated 2,500 to 4,000
Natural Communities	92	> 105 community types

Living Waters

	Species	
Biodiversity Group	**Included in Living Waters**	**Total Statewide**
Aquatic Vascular Plants	23	114
Fishes	11	57
Mussels	7	12
Aquatic Invertebrates	23	An estimated > 2500

species. Some Core Habitats were created for suites of common species, such as forest birds, which are particularly threatened by habitat fragmentation. In these cases, the individual common species are not listed.

What does 'Status' mean?

The Division of Fisheries and Wildlife determines a status category for each rare species listed under the Massachusetts Endangered Species Act, M.G.L. c.131A, and its implementing regulations, 321 CMR 10.00. Rare species are categorized as Endangered, Threatened, or of Special Concern according to the following:

- ***Endangered*** species are in danger of extinction throughout all or a significant portion of their range or are in danger of extirpation from Massachusetts.
- ***Threatened*** species are likely to become Endangered in Massachusetts in the foreseeable future throughout all or a significant portion of their range.
- ***Special Concern*** species have suffered a decline that could threaten the species if allowed to continue unchecked or occur in such small numbers or with such restricted distribution or specialized habitat requirements that they could easily become Threatened in Massachusetts.

In addition, the Natural Heritage & Endangered Species Program maintains an unofficial ***watch list*** of plants that are tracked due to potential conservation interest or concern, but are not regulated under the Massachusetts Endangered Species Act or other laws or regulations. Likewise, described natural communities are not regulated any laws or regulations, but they can help to identify ecologically important areas that are worthy of protection. The status of natural communities reflects the documented number and acreages of each community type in the state:

- ***Critically Imperiled*** communities typically have 5 or fewer documented sites or have very few remaining acres in the state.
- ***Imperiled*** communities typically have 6-20 sites or few remaining acres in the state.
- ***Vulnerable*** communities typically have 21-100 sites or limited acreage across the state.
- ***Secure*** communities typically have over 100 sites or abundant acreage across the state; however excellent examples are identified as Core Habitat to ensure continued protection.

Legal Protection of Biodiversity

BioMap and Living Waters present a powerful vision of what Massachusetts would look like with full protection of the land that supports most of our biodiversity. To create this vision, some populations of state-listed rare species were deemed more likely to survive over the long-term than others.

Regardless of their potential viability, all sites of state-listed species have full legal protection under the Massachusetts Endangered Species Act (M.G.L. c.131A) and its implementing regulations (321 CMR 10.00). Habitat of state-listed wildlife is also protected under the Wetlands Protection Act Regulations (310 CMR 10.37 and 10.59). The ***Massachusetts Natural Heritage Atlas*** shows **Priority Habitats**, which are used for regulation under the Massachusetts Endangered Species Act and Massachusetts Environmental Policy Act (M.G.L. c.30) and **Estimated Habitats**, which are used for regulation of rare wildlife habitat under the Wetlands Protection Act. For more information on rare species regulations, see the *Massachusetts Natural Heritage Atlas*, available from the Natural Heritage & Endangered Species Program in book and CD formats.

BioMap and Living Waters are conservation planning tools and do not, in any way, supplant the Estimated and Priority Habitat Maps which have regulatory significance. Unless and until the combined BioMap and Living Waters vision is fully realized, we must continue to protect all populations of our state-listed species and their habitats through environmental regulation.

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Understanding Core Habitat Summaries

Following the BioMap and Living Waters Core Habitat species and community lists, there is a descriptive summary of each Core Habitat that occurs in your city or town. This summary highlights some of the outstanding characteristics of each Core Habitat, and will help you learn more about your city or town's biodiversity. You can find out more information about many of these species and natural communities by looking at specific ***fact sheets*** at www.nhesp.org.

Next Steps

BioMap and Living Waters were created in part to help cities and towns prioritize their land protection efforts. While there are many reasons to conserve land – drinking water protection, recreation, agriculture, aesthetics, and others – BioMap and Living Waters Core Habitats are especially helpful to municipalities seeking to protect the rare species, natural communities, and overall biodiversity within their boundaries. Please use this report and map along with the rare species and community fact sheets to appreciate and understand the biological treasures in your city or town.

Protecting Larger Core Habitats

Core Habitats vary considerably in size. For example, the average BioMap Core Habitat is 800 acres, but Core Habitats can range from less than 10 acres to greater than 100,000 acres. These larger areas reflect the amount of land needed by some animal species for breeding, feeding, nesting, overwintering, and long-term survival. Protecting areas of this size can be very challenging, and requires developing partnerships with neighboring towns.

Prioritizing the protection of certain areas within larger Core Habitats can be accomplished through further consultation with Natural Heritage Program biologists, and through additional field research to identify the most important areas of the Core Habitat.

Additional Information

If you have any questions about this report, or if you need help protecting land for biodiversity in your community, the Natural Heritage & Endangered Species Program staff looks forward to working with you.

Contact the Natural Heritage & Endangered Species Program:

by Phone *508-792-7270, Ext. 200*

by Fax: *508-792-7821*

by Email: *natural.heritage@state.ma.us*.

by Mail: *North Drive*
Westborough, MA 01581

The GIS datalayers of BioMap and Living Waters Core Habitats are available for download from MassGIS: www.mass.gov/mgis

Check out www.nhesp.org for information on:

- Rare species in your town
- Rare species fact sheets
- BioMap and Living Waters projects
- Natural Heritage publications, including:
  - Field guides
  - Natural Heritage Atlas, and more!

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BioMap: Species and Natural Communities

Oak Bluffs

Core Habitat BM1462

Vertebrates

Common Name	Scientific Name	Status
Least Tern	*Sterna antillarum*	Special Concern
Piping Plover	*Charadrius melodus*	Threatened

Core Habitat BM1464

Plants

Common Name	Scientific Name	Status
Small Site for Rare Plant		

Core Habitat BM1468

Vertebrates

Common Name	Scientific Name	Status
Common Tern	*Sterna hirundo*	Special Concern
Least Tern	*Sterna antillarum*	Special Concern
Piping Plover	*Charadrius melodus*	Threatened

Core Habitat BM1469

Plants

Common Name	Scientific Name	Status
Bushy Rockrose	*Helianthemum dumosum*	Special Concern

Invertebrates

Common Name	Scientific Name	Status
Imperial Moth	*Eacles imperialis*	Threatened
Purple Tiger Beetle	*Cicindela purpurea*	Special Concern

BioMap: Species and Natural Communities

Oak Bluffs

Core Habitat BM1470

Plants

Common Name	Scientific Name	Status
Commons's Panic-Grass	*Dichanthelium ovale ssp. pseudopubescens*	Special Concern

Invertebrates

Common Name	Scientific Name	Status
Imperial Moth	*Eacles imperialis*	Threatened

Core Habitat BM1471

Natural Communities

Common Name	Scientific Name	Status
Estuarine Subtidal: Coastal Salt Pond		Imperiled
Oak - Hickory Forest		Secure
Sandplain Grassland		Critically Imperiled

Plants

Common Name	Scientific Name	Status
Bayard's Green Adder's-Mouth	*Malaxis bayardii*	Endangered
Brackish Bulrush	*Scirpus cylindricus*	Watch Listed
Bristly Foxtail	*Setaria parviflora*	Special Concern
Bushy Rockrose	*Helianthemum dumosum*	Special Concern
Canadian Sanicle	*Sanicula canadensis*	Threatened
Cranefly Orchid	*Tipularia discolor*	Endangered
Grass-Leaved Ladies'-Tresses	*Spiranthes vernalis*	Threatened
Lion's Foot	*Nabalus serpentarius*	Endangered
Nantucket Shadbush	*Amelanchier nantucketensis*	Special Concern
New England Blazing Star	*Liatris scariosa var. novae-angliae*	Special Concern
Papillose Nut-Sedge	*Scleria pauciflora var caroliniana*	Endangered

Purple Needlegrass	*Aristida purpurascens*	Threatened
Saltpond Pennywort	*Hydrocotyle verticillata*	Threatened
Sandplain Blue-Eyed Grass	*Sisyrinchium fuscatum*	Special Concern
Sandplain Flax	*Linum intercursum*	Special Concern
Sea-Beach Knotweed	*Polygonum glaucum*	Special Concern

Invertebrates

Common Name	Scientific Name	Status
Barrens Buckmoth	*Hemileuca maia*	Special Concern
Barrens Daggermoth	*Acronicta albarufa*	Threatened
Barrens Metarranthis Moth	*Metarranthis apiciaria*	Endangered
Blueberry Sallow	*Apharetra dentata*	----------
Chain Dot Geometer	*Cingilia catenaria*	Special Concern
Coastal Heathland Cutworm	*Abagrotis nefascia benjamini*	Special Concern
Coastal Swamp Metarranthis Moth	*Metarranthis pilosaria*	Special Concern
Comet Darner	*Anax longipes*	Special Concern
Faded Gray Geometer	*Stenoporpia polygrammaria*	Threatened
Gerhard's Underwing Moth	*Catocala herodias gerhardi*	Special Concern
Imperial Moth	*Eacles imperialis*	Threatened
Melsheimer's Sack Bearer	*Cicinnus melsheimeri*	Threatened
Pine Barrens Itame	*Itame sp. 1 near inextricata*	Special Concern
Pine Barrens Lycia	*Lycia ypsilon*	Threatened
Pine Barrens Zale	*Zale sp. 1 near lunifera*	Special Concern
Pink Sallow	*Psectraglaea carnosa*	Special Concern
Purple Tiger Beetle	*Cicindela purpurea*	Special Concern
Sandplain Euchlaena	*Euchlaena madusaria*	Special Concern
Slender Clearwing Sphinx Moth	*Hemaris gracilis*	Special Concern
Spartina Borer Moth	*Spartiniphaga inops*	Special Concern
Spiny Oakworm	*Anisota stigma*	Special Concern

Straight-lined Mallow moth	*Bagisara rectifascia*	Special Concern
Three-Lined Angle Moth	*Digrammia eremiata*	Threatened
Water-Willow Stem Borer	*Papaipema sulphurata*	Threatened

Vertebrates

Common Name	Scientific Name	Status
Barn Owl	*Tyto alba*	Special Concern
Eastern Box Turtle	*Terrapene carolina*	Special Concern
Four-toed Salamander	*Hemidactylium scutatum*	Special Concern
Grasshopper Sparrow	*Ammodramus savannarum*	Threatened
Least Tern	*Sterna antillarum*	Special Concern
Northern Harrier	*Circus cyaneus*	Threatened
Pied-Billed Grebe	*Podilymbus podiceps*	Endangered
Piping Plover	*Charadrius melodus*	Threatened
Short-eared Owl	*Asio flammeus*	Endangered
Spotted Turtle	*Clemmys guttata*	Special Concern

Core Habitat BM1474

Invertebrates

Common Name	Scientific Name	Status
Imperial Moth	*Eacles imperialis*	Threatened
Pine Barrens Zale	*Zale sp. 1 near lunifera*	Special Concern
Spiny Oakworm	*Anisota stigma*	Special Concern

Core Habitat BM1476

Plants

Common Name	Scientific Name	Status
Small Site for Rare Plant		

Core Habitat BM1479

Vertebrates

Common Name	Scientific Name	Status
Common Tern	*Sterna hirundo*	Special Concern
Least Tern	*Sterna antillarum*	Special Concern
Roseate Tern	*Sterna dougallii*	Endangered

BioMap: Core Habitat Summaries

Oak Bluffs

Core Habitat BM1462

Vertebrates

Eastville Point Beach supports breeding Least Terns and Piping Plovers. Potential threats to nesting coastal waterbirds include habitat alteration and loss, human disturbance, and predation. Annual protection from these threats is needed.

Core Habitat BM1468

Vertebrates

Harthaven Beach and Joseph Sylvia State Beach support breeding Piping Plovers, Least Terns, and, formerly, Common Terns. In recent years, Joseph Sylvia State Beach has supported one of the largest Least Tern colonies in the state. Potential threats to nesting coastal waterbirds include habitat alteration and loss, human disturbance, and predation. Annual protection from these threats is needed.

Core Habitat BM1469

Plants

A healthy population of the globally rare Bushy Rockrose is found in open areas of low-growing vegetation.

Invertebrates

The Trade Winds Airport and adjacent undeveloped lands provide a large area of rare species habitat, including wooded areas that are habitat for the Imperial Moth, which is not found anywhere in Massachusetts except on Martha's Vineyard. Open sandy areas within this Core Habitat are habitat for the Purple Tiger Beetle. This Core Habitat is relatively small and surrounded by development, but is located less than 5 km from the much larger and more important Core Habitat to the southwest, which allows for occasional dispersal of invertebrate species between these two areas. Such dispersal may be important to maintain the long-term viability of populations of rare invertebrates such as the Imperial Moth.

Core Habitat BM1470

Invertebrates

This Core Habitat is a large tract of undeveloped and relatively unfragmented oak and pine woodland that is habitat for the Imperial Moth, which is not found anywhere in Massachusetts except on Martha's Vineyard. Although separated by a narrow strip of agricultural land, this Core Habitat is essentially contiguous with the much larger Core Habitat to the south, which allows for dispersal of the Imperial Moth and other insect species between these two areas. It is likely that this Core Habitat is habitat for other rare moth species in addition to the Imperial Moth. Most of this Core Habitat appears to be unprotected.

BioMap: Core Habitat Summaries

Oak Bluffs

Core Habitat BM1471

Given the wide variety of uncommon plants and animals found here, this large Core Habitat represents a critical area for Massachusetts' biodiversity. Encompassing the central and southern portions of Martha's Vineyard, this Core Habitat contains numerous Coastal Salt Ponds, and its Sandplain Grassland may be the largest and best example of this community type in New England. These and other habitats support several dozen rare invertebrate species, and nearly as many rare plant species. The Core Habitat also supports rare turtles and salamanders, several coastal waterbirds, Northern Harriers, as well as important migration and breeding habitat for a variety of other bird species. More than half of the Core Habitat is protected, and further conservation of the remaining areas is important to reduce habitat fragmentation.

Natural Communities

The Sandplain Grassland within this Core Habitat is considered to be the largest and best in the state, and possibly in New England. Sandplain Grasslands are found on rolling plains and generally occur on sandy, dry, poor soils. This very rare natural community supports many state-listed plant and animal species. This Core Habitat also contains numerous Estuarine Subtidal Coastal Salt Ponds in good condition. Coastal Salt Pond communities consist of vegetation surrounding coastal brackish ponds. These ponds are usually separated from the ocean by a sandspit. Their salinity varies and is influenced by opening and closing of the spit.

Plants

More than a dozen different rare plant species, several in multiple locations, are located within this large Core Habitat. Many of the species are adapted to coastal conditions, such as the Saltpond Pennywort, which grows around the edges of saltponds, and the Sea-Beach Knotweed, which is found growing along shifting dunes. Others are characteristic species of sandplain grasslands, including the Bushy Rockrose, Sandplain Flax, and Papillose Nut-Sedge. In areas of mesic or wet forest, the Endangered Cranefly Orchid grows.

Invertebrates

This Core Habitat includes habitat for a diversity of invertebrate species that are listed as Endangered, Threatened, or Species of Special Concern in Massachusetts, including 22 species of moths and butterflies. These invertebrates represent a unique and threatened biota of global significance. For example, the Imperial Moth and four other moth species inhabiting this Core Habitat are not found anywhere in Massachusetts except on Martha's Vineyard. Besides barrens species such as Melsheimer's Sack Bearer moth, the Barrens Daggermoth, and Gerhard's Underwing moth, this Core Habitat includes various other habitats for rare invertebrates, including heathlands inhabited by species such as the Pink Sallow moth and the Slender Clearwing Sphinx moth; acidic shrub swamps and kettlehole bogs that are habitat for the Coastal Swamp Metarranthis moth and the Water-willow Stem Borer moth; sandplain grasslands that provide habitat for the Three-Lined Angle moth; and marshes and Coastal Plain pondshores inhabited by the Straight-lined Mallow moth, the Spartina Borer moth, and the Comet Darner dragonfly.

Vertebrates

This large and diverse Core Habitat contains some of the best habitat on Martha's Vineyard for supporting viable populations of Eastern Box Turtles, Spotted Turtles, and Four-toed Salamanders.

This Core Habitat also encompasses many of the most important nesting and foraging areas for Northern Harriers on Martha's Vineyard, as well as important breeding habitat for Piping Plovers and Least Terns. The numerous ponds and associated wetlands located immediately landward of the barrier beaches provide important migration habitat for waterfowl and other waterbirds. Moving inland, woodlands and shrublands provide important breeding habitat for birds associated with pitch pine - scrub oak barrens, as well as valuable near-coast migration habitat for a variety of landbirds. Grasshopper Sparrows formerly nested in the sandplain grasslands of Katama Plains, although their current status is uncertain.

Core Habitat BM1474

Invertebrates

Apparently none of this Core Habitat, which is both undeveloped and unfragmented, is located on conservation land. This Core Habitat includes habitat for at least three moth species that are listed as Endangered, Threatened, or Species of Special Concern in Massachusetts: the Imperial Moth, the Pine Barrens Zale moth, and the Spiny Oakworm moth. The Imperial Moth is not found anywhere in Massachusetts other than Martha's Vineyard. These three moth species inhabit open, dry woodlands and barrens where their caterpillars feed on Pitch Pine and various oaks, especially Scrub Oak. Although separated by a narrow strip of development, this Core Habitat is essentially contiguous with the much larger Core Habitat to the south, which allows for dispersal of the Imperial Moth and other insect species between these two areas. It is likely that this Core Habitat is habitat for other rare moth species in addition to those listed here.

Core Habitat BM1479

Vertebrates

Sarson Island supports a breeding colony of Double-crested Cormorants, Herring Gulls, and Great Black-backed Gulls. Formerly, Snowy Egrets, Common Terns, Least Terns, and Roseate Terns nested here. Potential threats to nesting coastal waterbirds include habitat alteration and loss, human disturbance, and predation. Annual protection from these threats is needed.

Help Save Endangered Wildlife!

Please contribute on your Massachusetts income tax form or directly to the

Natural Heritage &
Endangered Species Fund

To learn more about the Natural Heritage & Endangered Species Program and the Commonwealth's rare species, visit our web site at: www.nhesp.org.